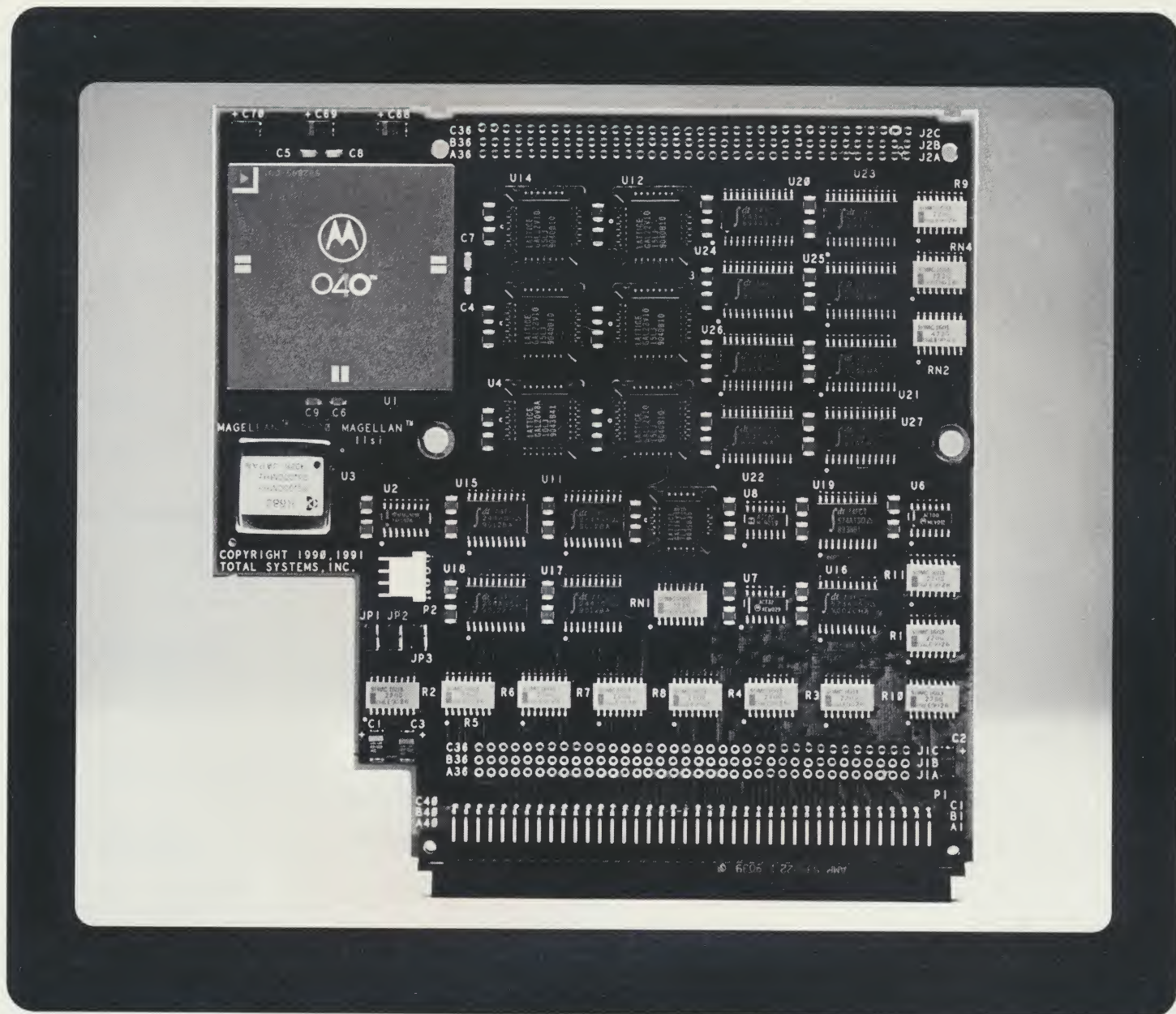




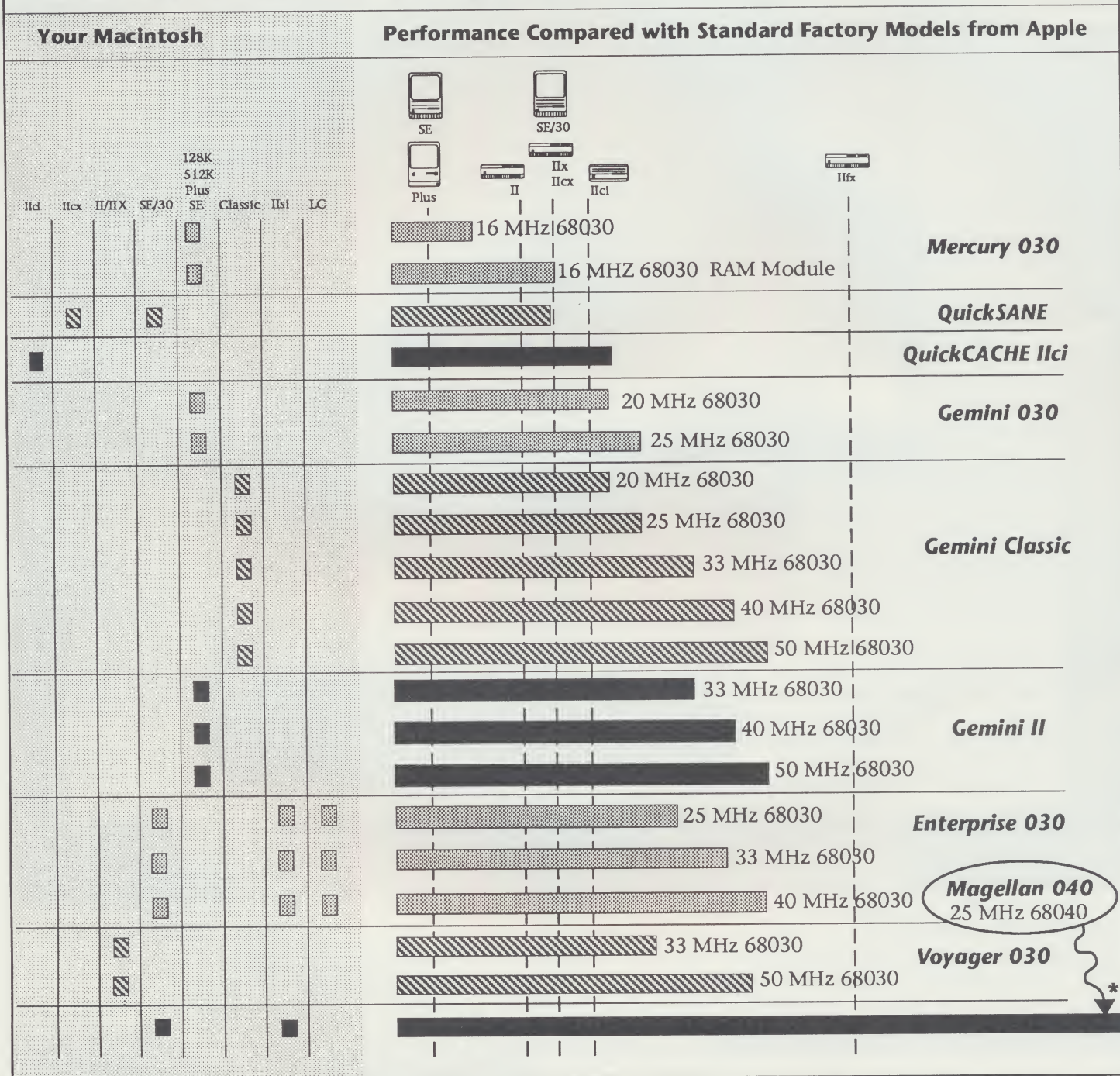
Performance Comparisons

68020/68030/68040

Accelerator Family



CPU Performance Comparisons



KEY: These charts provide an approximate comparison of the performance of the **TOTAL SYSTEMS** family of upgrade options for different Macintoshes. The dotted lines correspond to the performance of the units as they come from Apple. Locate your Macintosh model in the left section and follow the bars across to see the choices available for you.

* Still going!

**For the Macintosh 128K, 512K, 512KE & Plus
accelerator
cards**

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pricing**

Part #	Description	List	BUY 10-Jan thru 13-Jan	BUY 14-Jan thru 31-Jan	BUY after 1-Feb
			PAY	PAY	PAY

Mercury 030 Modular, expandable 68030 System 7 Upgrade Card

Main Mercury Module with and without coprocessor option

MER316PX	16MHz 68030 Mercury System 7 Upgrade Card	\$795	\$477	\$517	\$557
MER316PM	16MHz 68030 Mercury System 7 Upgrade Card with 20MHz 68882	995	597	647	697

Mercury Expansion Modules

MER-SCSI	1.2MB/second High-Speed SCSI Expansion Module	315	189	205	221
MER-RAM-0	32-Bit RAM Expansion Module—zero RAM	415	249	270	291
MER-RAM-4	32-Bit RAM Expansion Module—4MB 80ns RAM, 0 wait states	885	531	575	620

MER-BUND-P TURNKEY SYSTEM 7 UPGRADE PACKAGE includes:

*Mercury 16MHz 68030 card with 20MHz 68882, high-speed SCSI,
32-Bit RAM card with 4MB 80ns RAM, & VIRTUAL*

1995	1099	1427	1537
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Gemini 020\030 Integrated 68020/68030 accelerator card

GEM320PX	20MHz 68030 <i>Gemini</i> card	1445	867	939	1012
GEM320PM	20MHz 68030 <i>Gemini</i> card with 20MHz 68882 coprocessor	1645	987	1069	1152
GEM325PX	25MHz 68030 <i>Gemini</i> card	1995	1197	1297	1397
GEM325PM	25MHz 68030 <i>Gemini</i> card with 25MHz 68882 coprocessor	2295	1377	1492	1607

Gemini II Integrated 68030 accelerator card

GEM333PX-II	33MHz 68030 <i>Gemini II</i> card	2295	1377	1492	1607
GEM333PM-II	33MHz 68030 <i>Gemini II</i> card with 33MHz 68882 coprocessor	2695	1617	1752	1887
GEM340PX-II	40MHz 68030 <i>Gemini II</i> card	2495	1497	1622	1747
GEM340PM-II	40MHz 68030 <i>Gemini II</i> card with 40MHz 68882 coprocessor	3195	1917	2077	2237
GEM350PX-II	50MHz 68030 <i>Gemini II</i> card	2695	1617	1752	1887
GEM350PM-II	50MHz 68030 <i>Gemini II</i> card with 50MHz 68882 coprocessor	3695	2217	2402	2587

- NOTES • An internal fan, auxiliary power supply and special clip-on connector are bundled with all of the above accelerator cards, including the *MERCURY* TURNKEY PACKAGE.
- Additionally, *Gemini 020\030* and *Gemini II* cards have built-in 32-Bit RAM sockets [4], and a built-in "hardware hand-shaking" High Speed SCSI with a data transfer rate of 1.2MB/second.
- *VIRTUAL™* by Connectix is bundled with all of the above accelerator cards.
- We recommend using SIMMs purchased from **TOTAL SYSTEMS** since they will be tested and installed on your card at our factory and are guaranteed for the lifetime of the product.
- UNLESS OTHERWISE INDICATED ALL **TOTAL SYSTEMS** PRODUCTS COME WITH A TWELVE MONTH WARRANTY AND 30 DAY MONEY BACK GUARANTEE OF SATISFACTION.

**For the Macintosh SE
accelerator
cards**

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pricing**

Part #	Description	List	BUY 10-Jan thru 13-Jan	BUY 14-Jan thru 31-Jan	BUY after 1-Feb
			PAY	PAY	PAY

Mercury 030 A modular, 68030 System 7 Upgrade Card

Main Mercury Module with and without coprocessor option

MER316SX	16MHz 68030 Mercury System 7 Upgrade Card	\$595	\$357	\$387	\$417
MER316SM	16MHz 68030 Mercury System 7 Upgrade Card with 20MHz 68882	795	477	517	557

Mercury Expansion Modules

MER-RAM-0	32-Bit RAM Expansion Module—contains 4 SIMM sockets, zero RAM	415	249	270	291
MER-RAM-4	32-Bit RAM Expansion Module—4MB 80ns RAM, 0 wait states	885	531	575	620

MER-BUND-S TURNKEY SYSTEM 7 UPGRADE PACKAGE includes:-

Mercury 16MHz 68030 card with 20MHz 68882,
32-Bit RAM card with 4MB 80ns RAM, & VIRTUAL

1595 **999** 1167 1257

Gemini 020\030 Integrated 68020/68030 accelerator card

GEM320SX	20MHz 68030 Gemini card	1245	747	809	872
GEM320SM	20MHz 68030 Gemini card with 20MHz 68882 coprocessor	1445	867	939	1012
GEM325SX	25MHz 68030 Gemini card	1795	1077	1167	1257
GEM325SM	25MHz 68030 Gemini card with 25MHz 68882 coprocessor	2095	1257	1362	1467

Gemini II Integrated 68030 accelerator card

GEM333SX-II	33MHz 68030 Gemini II card	2095	1257	1362	1467
GEM333SM-II	33MHz 68030 Gemini II card with 33MHz 68882 coprocessor	2495	1497	1622	1747
GEM340SX-II	40MHz 68030 Gemini II card	2295	1377	1492	1607
GEM340SM-II	40MHz 68030 Gemini II card with 40MHz 68882 coprocessor	2995	1797	1947	2097
GEM350SX-II	50MHz 68030 Gemini II card	2495	1497	1622	1747
GEM350SM-II	50MHz 68030 Gemini II card with 50MHz 68882 coprocessor	3495	2097	2272	2447

NOTES • All accelerator cards snap into the standard SE slot adapter and provide an expansion port for the addition of ethernet and video cards [check with **TOTAL SYSTEMS** for compatibility listing].

- Additionally, Gemini 020\030 and Gemini II cards have built-in 32-Bit RAM sockets [4].
- VIRTUAL™ by Connectix is bundled with all of the above accelerator cards.
- We recommend using SIMMs purchased from **TOTAL SYSTEMS** since they will be tested and installed on your card at our factory and are guaranteed for the lifetime of the product.
- UNLESS OTHERWISE INDICATED ALL **TOTAL SYSTEMS** PRODUCTS COME WITH A TWELVE MONTH WARRANTY AND 30 DAY MONEY BACK GUARANTEE OF SATISFACTION.



**For the Macintosh SE/30 and Macintosh II family
accelerator
cards**

**san francisco
show special
pricing**

			BUY 10-Jan thru 13-Jan	BUY 14-Jan thru 31-Jan	BUY after 1-Feb
Part #	Description	List			
			PAY	PAY	PAY
QuickSANE SANE enhancement software					
Macintosh SE/30, Macintosh II, IIx, IIcx and IIci					
QUICKSANE	QuickSANE— SANE enhancement software utility	\$80	\$48	\$52	\$56
Voyager 030 Processor direct 68030 card					
Macintosh II					
VOY333	Voyager card with 33MHz 68030	1795	1580	1687	1795
VOY333M	Voyager card with 33MHz 68030/68882 math	1995	1756	1875	1995
VOY350	Voyager card with 50MHz 68030	3795	3340	3567	3795
VOY350M	Voyager card with 50MHz 68030/68882 math	4295	3780	4037	4295
Macintosh IIx					
VOY333x	Voyager card with 33MHz 68030	1795	1580	1687	1795
VOY333Mx	Voyager card with 33MHz 68030/68882 math	1995	1756	1875	1995
VOY350x	Voyager card with 50MHz 68030	3795	3340	3567	3795
VOY350Mx	Voyager card with 50MHz 68030/68882 math	4295	3780	4037	4295
Magellan 040 Modular, expandable 68040 direct slot processor card					
Macintosh SE/30*					
MAG040S	25MHz 68040 card with built-in FPU, PMMU	2995	2397		2995
QuickCACHE IIci RAM cache card					
Macintosh IIci					
QUICKCACHE	QuickCACHE IIci zero wait state 128K cache card	419	259	272	293

- NOTES * MAGELLAN 040S IS IN PRODUCTION AND SLATED TO SHIP ON MARCH 1ST, 1991.
YOU MAY SECURE SPECIAL SHOW PRICING BY PLACING YOUR ORDER AT THE SHOW.
YOUR ORDER MUST BE ACCOMPANIED BY A \$200 DEPOSIT.
THE DEPOSIT IS NON-REFUNDABLE UNLESS **TOTAL SYSTEMS** FAILS TO SHIP BY MARCH 1ST, 1991, IN WHICH CASE YOU WILL BE GIVEN THE OPTION TO CANCEL YOUR ORDER AND RECEIVE A FULL REFUND ON YOUR DEPOSIT.
- VIRTUAL™ by Connectix is bundled with MAGELLAN 040S.
 - MAGELLAN 040C for the Macintosh IIci and MAGELLAN 040F for the Macintosh IIx are in pre-production. Pricing and availability will be announced at a later date.
 - ALL OF THE ABOVE PRODUCTS COME WITH A TWELVE MONTH WARRANTY AND 30 DAY MONEY BACK GUARANTEE OF SATISFACTION.

**For the Macintosh Classic, IIsi and LC
accelerator
cards**

**san francisco
show special
pricing**

			ORDER 10-Jan thru 13-Jan	BUY after 14-Jan
Part #	Description	List		
			PAY	PAY
Enterprise 030LC Modular, 68030 card with built in 68882 coprocessor				
Macintosh LC				
ENT325LCM	25MHz 68030 card with 25MHz 68882 coprocessor	\$1995	\$1197	\$1596
ENT333LCM	33MHz 68030 card with 33MHz 68882 coprocessor	2395	1437	1916
ENT340LCM	40MHz 68030 card with 40MHz 68882 coprocessor	2795	1677	2236
Magellan 040 Modular, expandable 68040 direct slot processor card				
Macintosh IIsi				
MAG040S	25MHz 68040 card with built-in FPU, PMMU	2995	2397	2995

Gemini Classic Integrated 68030 card

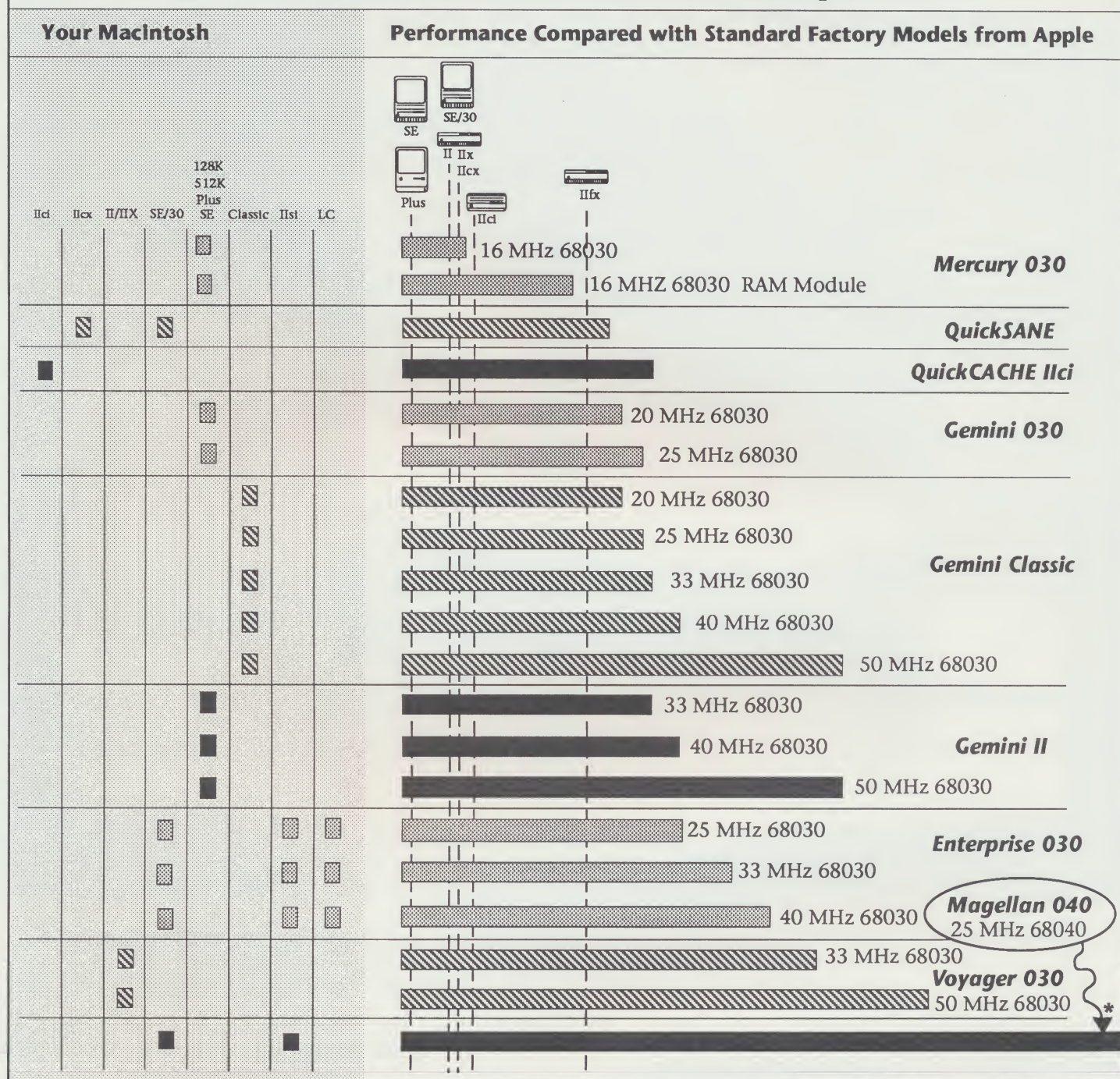
Macintosh Classic

GEM320CX	20MHz 68030 <i>Gemini</i> card	1595	957	1276
GEM320CM	20MHz 68030 <i>Gemini</i> card with 20MHz 68882 coprocessor	1795	1077	1436
GEM325CX	25MHz 68030 <i>Gemini</i> card	1995	1197	1596
GEM325CM	25MHz 68030 <i>Gemini</i> card with 25MHz 68882 coprocessor	2395	1437	1916
GEM333CX-II	33MHz 68030 <i>Gemini II</i> card	2395	1437	1916
GEM333CM-II	33MHz 68030 <i>Gemini II</i> card with 33MHz 68882 coprocessor	2795	1677	2236
GEM340CX-II	40MHz 68030 <i>Gemini II</i> card	2595	1557	2076
GEM340CM-II	40MHz 68030 <i>Gemini II</i> card with 40MHz 68882 coprocessor	3295	1977	2636
GEM350CX-II	50MHz 68030 <i>Gemini II</i> card	2795	1677	2236
GEM350CM-II	50MHz 68030 <i>Gemini II</i> card with 50MHz 68882 coprocessor	3795	2277	3036

- NOTES • ALL OF THE ABOVE ACCELERATOR CARDS ARE IN PRODUCTION AND SLATED TO SHIP ON MARCH 1ST, 1991.
- YOU MAY SECURE SPECIAL SHOW PRICING BY PLACING YOUR ORDER AT THE SHOW.
- YOUR ORDER MUST BE ACCOMPANIED BY A \$200 DEPOSIT.
- THE DEPOSIT IS NON-REFUNDABLE UNLESS **TOTAL SYSTEMS** FAILS TO SHIP BY MARCH 1ST, 1991, IN WHICH CASE YOU WILL BE GIVEN THE OPTION TO CANCEL YOUR ORDER AND RECEIVE A FULL REFUND ON YOUR DEPOSIT.
- VIRTUAL™ by Connectix is bundled with all of the above accelerator cards.
- ALL OF THE ABOVE PRODUCTS COME WITH A TWELVE MONTH WARRANTY AND 30 DAY MONEY BACK GUARANTEE OF SATISFACTION.



Floating Point (Math) Performance Comparisons



"Your best bet is the **TOTAL SYSTEMS** Gemini line of accelerators. The *Gemini 020 Plus* ... is both cost-effective and speedy, and the *Gemini 030 Plus*... can boost your Plus' performance well past that of a IIci. As an added—and very important—benefit, *Gemini* accelerators also solve the Plus' SCSI handshaking problems when you add **TOTAL SYSTEMS** highly recommended *GemKit* option...."

—MacUser August, 1990

"Based on the products we [tested], we recommend **TOTAL SYSTEMS** 25MHz 68030 *Gemini* board [and] we prefer **TOTAL SYSTEMS** technical support...."

—MacWorld August, 1990

* Still going!

"For Macintosh II and IIx owners...**TOTAL SYSTEMS** offers [competitive] 68030-based accelerators in speed ranges of 25MHz to 50MHz."

—MacWorld August, 1990

"If you're content with all of your SE's resources except its speed, you can beat Apple's best by plugging in **TOTAL SYSTEMS** ...*Gemini 020* (with FPU), upping the SE's performance by more than 300 percent. **TOTAL SYSTEMS** *Gemini 030* model ... screams along at nearly five times the SE's best. In fact, our tests showed that the *Gemini 030s* for both the Plus and the SE beat the next-to-top-of-the-line Mac IIci in nearly every test!"

—MacUser August, 1990

Product Snapshot

Mercury 030

Our introductory, *System 7.0 Upgrade Card* for the **Macintosh Plus or SE**. Main module has a 16MHz 68030 CPU, doubles speed of original Mac and satisfies hardware requirements for running System 7.0. Optional math coprocessor available. Optional 32-RAM Card expansion module provides **five** times performance of original Mac. Plus version is bundled with an internal fan and auxiliary power supply. Optional High Speed SCSI expansion module is also available for Plus. Both versions are bundled with VIRTUAL™.

Gemini 020\030 & Gemini II

Works interchangeably in **Macintosh 128K, 512K, Plus and SE**. *Gemini 020\030* offers a choice of 20MHz or 25MHz 68030 CPU; *Gemini II* offers choice of 33MHz, 40MHz or 50MHz CPU. Optional 68882 math coprocessor and 4MB of RAM using standard SIMMs. 128K, 512K, Plus version bundled with high speed SCSI, fan, and power supply; clip-on connector. Bundled with VIRTUAL™.  rating from MacUser (August, 1990).

Gemini Classic

Provides true 32-bit acceleration for the **Macintosh Classic**. Choose between 20MHz, 25MHz, 33MHz, 40MHz or 50MHz 68030 CPU. Field upgradeable between different processor speeds. Optional 68882 math coprocessor and 4MB of RAM using standard SIMMs. Includes special clip-on connector which does not require soldering. Bundled with VIRTUAL™.

Enterprise 030

Provides true 32-bit acceleration for the **Macintosh LC, IIsi, and SE/30**. Choose between 25MHz, 33MHz, or 40MHz 68030 CPU. Field-upgradeable between different processor speeds. Optional 68882 math coprocessor available. *Enterprise IIsi* and *Enterprise SE/30* also offer 50MHz option and expansion capability to run other third party cards. Bundled with VIRTUAL™.

Magellan 040

The FIRST 68040 based accelerator card for the Macintosh, *Magellan 040* offers a 25MHz 68040 CPU, with built-in PMMU and FPU. Models available for **Macintosh IIsi, SE/30**, and for the **IIfx and IIfx** (2nd quarter 1991). Provides expansion support for variety of third party boards. Bundled with VIRTUAL™.

Voyager 030

Offers a choice of 33MHz or 50MHz 68030 processor for the **Macintosh II and IIfx**. Compatible with all major peripherals and software including System 7.0, and AUX 2.0. 33MHz version doubles performance of Mac II/IIfx; 50MHz version more than triples performance of original machine. Bundled with VIRTUAL™.

QuickSANE

A control panel device (CDEV) which acts as a "traffic manager" routing SANE (Standard Apple Numeric Environment) calls directly to MC68881/2 coprocessor. The result is that math intensive operations are executed up to 300% faster once QuickSANE is installed. For **Macintosh II, IIfx, IIfx, IIfx, IIfx, and SE/30**.

QuickCACHE IIfx

A RAM cache card specially designed to take advantage of the processor-direct slot in the **Macintosh IIfx**. Permits zero wait state system operation by storing frequently used application code directly in the 128K of high-speed 25ns RAM provided on the card. Increases the performance of the IIfx by up to 40%.

Ordering Information

We are confident that our products will perform to your satisfaction, and offer a thirty day money back guarantee and full twelve month warranty. Visit your local dealer or use our toll free sales line to call **TOTAL SYSTEMS** direct.

Mercury, Gemini 020\030, Gemini II, Gemini Classic, Enterprise, Magellan, Voyager, QuickSANE and Quick-CACHE IIfx are trademarks or registered trademarks of **TOTAL SYSTEMS**. All other product names are trademarks or registered trademarks of their respective holders.

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